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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/649,230

08/26/2003

Heiko Mauersberger

016072-001400US

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EXAMINER

DINH, PAUL

ART UNIT

PAPER NUMBER

2825

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/649,230

Applicant(s)

MAUERSBERGER, HEIKO

Examiner

Paul Dinh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This is a response to the election without traverse filed on 6/2/05.

Remarks Regarding Restriction Requirement.

The examiner acknowledges the election of group I (Claim 1-9).

After further consideration of the claims, the examiner finds that group II (claim 10) Recites different subject matter as detailed in the previous office action, i.e., Claims 1-9 drawn to A device without checking, placement, routing, and calculating/producing internal/external Assignment/ connections, claim 10 drawn to a program with checking, placement, routing, and Calculating/ producing internal/external assignment/connections.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

The restriction requirement has been fully considered, fully reconsidered, **the requirement is still deemed proper and is therefore made FINAL.** The elected claims 1-9 will be examined in this office action; the non-elected claim 10 withdrawn from consideration pursuant to 37 CFR 1.142(b), as being nonelected. The applicants are advised, in the next communication, to cancel the non-elected claim 10.

Drawing Objections

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims.

a. Figures 1, 3-5 are, in general, objected to because the blocks for "Circuit Board(s)", programmable logic circuits such as "PLD" or "FPGA" should be labeled "Circuit Board(s)", "PLD" or "FPGA", accordingly.

b. Figure 7 is objected to because all the blocks of the flowchart figure 7 must be labeled according to their functions.

Correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

1. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being Indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is rejected because:

a. The phrase "**may be**" on line 9 renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d). Also note the phrase "**may be**" in claim 6

b. As claim 1 presents, it is not clear how "flexibly interconnected" can be achieved. This feature must be clearly defined in claim 1. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.

Claims 2-9 are rejected because they depend on claim 1.

Regarding claim 8, the phrase "**like a ...**" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

2. The following are objected to because they lack antecedent basis.

(Claim 1) "the assignment" and "the terminal contacts" on line 11

(Claim 2) "the assigned channel" and "the individual channels"

(Claim 3) "the corresponding logic circuits"

(Claim 5) "the particular bus lines"

(Claim 7) "the receiving devices" and "the main connection devices" on line 2, "the group connection devices" on line 3, "the particular board" on line 6; "the outward leading bus lines" on line 7

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form

The basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Rush (USP 5742181)

(Claim 1)

A device for the emulation (col 1, 5) of designs for IC having a receiving device for Multiple programmable logic circuits, particularly FPGAs (col 1, fig 2-6), and an electrical connection structure, which has bus lines (bus 212-214 in fig 2-4, 6), each of which includes multiple channels,

Characterized in that,

Each programmable logic circuit is connected to at least one bus line (bus 212-214 in fig 2-4, 6) And the connection structure is implemented so it **may be** flexible interconnected, in that the assignment of at least a part of the terminal contacts of any programmable logic circuit is freely programmable (freely programmable by routing switches, crossbar, programmable interconnects/buses, switch matrix, cross point programmable interconnects in this prior art, i.e., col 7-11) and

In that at least a part of the bus lines connected to the programmable logic circuits are Alternately electrically connectable to one another in such a way that at least one channel of a bus line is electrically connectable to a channel of at least one other bus line using a switch (col 7, 9-10, 14)

(Claim 2) characterized in that multiple channels of a bus line (bus 212-214 in fig 2-4, 6), Are alternate electrically connectable to multiple channel of another bus line (col 7, 9-10, 14, fig 2-6); each channel of the one bus line being electrically connectable to the assigned channel of the other bus line being connectable independently of one another (col 7, 9-10, 14, fig 2-6)

(Claim 3) characterized in that connection bus lines (bus 212-214 in fig 2-4, 6), are provided between at least a part of the programmable logic circuits for direct connection of the corresponding logic circuits (fig 2-4, 6, col 6-11).

(Claim 4) characterized in that multiple receiving devices (fig 2-6) are connectable to one Another via connection devices (fig 2-6), the connection devices having switchable bus lines (bus 212-214 in fig 2-4, 6)

(Claim 5) characterized in that main connection devices are provided (fig 2-6), each of which connects two receiving devices to one another (col 7, 9-10, 14, fig 2-6), the main connection devices having bus lines (bus 212-214 in fig 2-4, 6), which connect the particular bus

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lines (bus 212-214 in fig 2-4, 6) of the two receiving devices (fig 2-6) assigned to one another to one another and the bus lines of a main connection device (7A, 7B, 7C) being alternately electrically connectable to one another in such a way that at least one channel of a bus line is electrically connectable to the channel of at least one other bus line (col 7, 9-10, 14, fig 2-6)

(Claim 6) characterized in that group connection devices (fig 2-6) are provided, each of which connects two receiving device pairs, including two receiving devices (fig 2-6), connected to one another using a main connection device (fig 2-6), to one another and a group connection device (fig 2-6) having bus (bus 212-214 in fig 2-4, 6), which are connected to the bus lines of the particular receiving device pair, and the bus lines of the group connection devices each being switchable in such a way that each channel of each bus line of the group connection device is assigned a switch **maybe** switched on and of independently of one another.

Allowable Subject Matter

Claims 7-9 would be allowable if:

- a. Rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims; and
- b. The drawing objections are overcome.

Claims 7-9 would be allowable because the prior art does not teach or suggest the limitations in claim 7.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Dinh whose telephone number is 571-272-1890. The examiner can normally be reached on Monday to Friday from 8:30am to 5:00pm.

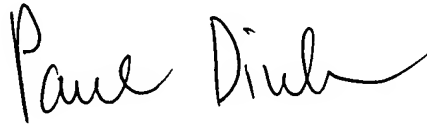
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on 571-272-1907. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Paul Dinh

Patent Examiner

A handwritten signature in black ink that reads "Paul Dinh". The signature is written in a cursive, flowing style with a long horizontal stroke at the end.